

WHAT WE CLAIM IS:

1. A process for the operation of a burner, comprising the steps of:  
providing a burner for a heat generator, the burner including a swirl generator for receiving and swirling at least part of a combustion air flow, the swirl generator defining a central burner axis and having an internal space, the swirl generator configured and arranged for tangentially introducing the combustion air flow into the internal space, the internal space defining a cross sectional throughflow area;

providing means for the introduction of at least one fuel into the combustion air flow, means at a downstream end of the swirl generator for forming an abrupt widening of the cross sectional throughflow area, and an injection device configured and arranged for the introduction of an axial central air flow along the central burner axis, the injection device including an adjustable element configured and arranged for altering a throughflow cross section of the injection device and for the control of the mass flow of the axial central air flow; and

strongly throttling the axial central flow at low burner load; and  
weakly throttling or no throttling of the central flow at high burner load.

2. The process in accordance with claim 1, further comprising the step of:

determining the burner load using a fuel mass flow measurement signal  $X_m$ .

3. The process in accordance with Claim 1, further comprising the steps of:

operating the burner in a combustion chamber of a gas turbine plant;

wherein the step of determining the burner load comprises determining the burner load based on a parameter selected from the group consisting of:

- (a) the generator power;
- (b) a fuel of the gas turbine plant;
- (c) the setting of a front guide vane set of a compressor belonging to the gas turbine plant;
- (d) ambient conditions; and
- (e) combinations thereof.

4. The process according to Claim 1, wherein a material temperature of the burner is measured, and wherein the central flow is controlled in dependence on the measured material temperature.

5. The process according to Claim 1 in a combustion chamber of a gas turbine plant, wherein combustion pulsations are measured, and wherein the central flow is controlled in dependence on the measured combustion pulsations.

6. The process according to Claim 1 in a multi-burner system of a gas turbine, wherein the central flow of individual burners is controlled in dependence on the measured combustion pulsations.